

Remarks/Arguments:

By this Amendment, Applicants have amended claims 5 and 8. Claims 5, 6 and 8 are pending.

Claims 5, 6 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by MacRaild. By this Amendment, Applicants respectfully traverse the Section 102(b) rejection.

Claims 5 and 8 are independent claims, with claim 6 dependent on claim 5.

Turning first to claim 5, it is directed to a screen printing apparatus for printing paste onto a substrate via pattern apertures of a mask plate by sliding a squeegee head on the mask plate. The squeegee head comprises the following elements:

- a paste storage for storing paste;
- a pressure applying member for applying pressure to the paste in the paste storage;
- a paste cell for accommodating the pressurized paste and bringing the paste into contact with a surface of the mask plate via an opening formed on a lower face of the paste cell;
- a scraper forming a front wall and a rear wall in a squeegee-moving direction, and forming a brim of the opening with a lower end of the scraper contacting a surface of the mask plate, **the front and rear walls of the scraper defining front and rear walls of the paste cell;** and
- **a paste-shearing member, disposed in the paste cell and between the front and rear walls of the paste**

cell, the paste-shearing member having a vertical face contacting with the pressurized paste, for shearing the paste flowing down along the contacting face.

Applicants contend that the screen-printing apparatus as defined by claim 5 is patentably distinguished from the MacRaild Patent at least based on the requirement that the front and rear walls of the scraper define front and rear walls of the paste cell, and that the paste-shearing member is disposed in the paste cell so that it is between the front and rear walls of the paste cell. This structure is neither taught nor suggested by the MacRaild Patent. Moreover, it is Applicants' position that the purpose and operation of the claimed paste-shearing member is not found or suggested in the MacRaild Patent.

The MacRaild Patent, in general, concerns a cassette for holding and dispensing a viscous material for use in an apparatus for depositing the viscous material onto a substrate for openings formed in a stencil which is positioned over a substrate. The cassette includes a body having a base and interior defined by first and second sidewalls and first and second end walls substantially orthogonal to the base. The base has a plurality of apertures formed therein, and a cover plate adapted to slide within the interior of the body. The cover plate has a plurality of protruding members wherein each of the protruding members corresponds to and is aligned with a corresponding one of the apertures of the base.

More specifically, the Office Action takes position that the grille 17, shown in Figure 3 of the MacRaild Patent, anticipates the paste-shearing member defined in Applicants' claim 5. Applicants respectfully disagree.

According to the MacRaild Patent, at column 7, line 60 to column 8, line 26 (with respect to Figures 3, 4 and 7), the grille 17 forms a flat board having a number of perforations 18. The grille 17 is disposed on the top surface of sealing members 15 and 16; see Figure 3. Thus, grille 17 is not disposed in the paste cell which is defined by the front and rear walls of the scraper according to Applicants' claim 5. Nor is grille 17 between the front and rear walls of the paste cell defined by Applicants' claim 5. Thus structurally, the grille 17 is not the same as the paste-shearing member defined by Applicants' claim 5.

The grille 17 of the MacRaild Patent has a structure similar to and an operation similar to the cling-preventative plate 33 shown in Figure 3 of the subject application. Plate 33 is disposed on a bottom face of cartridge 31 which stores cream solder 5 (Figure 3), and is described in the subject application at page 5, line 16 to page 6, line 18. Plate 33 includes apertures 312 and round apertures 331. As is apparent from Figure 3 of the subject application, the cling-preventative plate 33 is not disposed in the paste cell and is not between the front and rear walls of the paste cell as in the paste-shearing member defined by claim 5.

Applicants' invention as shown in Figures 3 and 4 of the subject application, for example, include a rectifying member 34 which is in a space surrounded by an underside of lower body 306 and between two scrapers 365 and 366 which define the paste cell. This rectifying member 34 is thus formed in the paste cell 35, and under plate 33 as shown in Figures 3 and 4. The preceding structure is defined in the originally filed application at page 6, line 11 to page 7, line 4.

In the originally filed specification, another form of the paste-shearing member is shown as partition 44. Referring to page 10, line 16 to page 11, line 7 (see Figures

4, 7A and 7B), the partition 44 is formed by combining a plurality of vertical partitioning plates 441 having a thickness vertically in a lattice shape. Partition 44 is disposed in paste cell 35 and under the plate 33 and between the front and rear walls of the scraper defining the paste cell. In addition, partition 44 is used to adjust the flow of cream solder 5.

Vertical faces of partition 44 contact the pressurized solder 5 in paste cell 35. Solder 5 moves down along these contacting faces. As a result, partition 44 functions as a paste-shearing member for shearing solder 5. Because solder 5 flows down through the spaces in the lattices formed by partitioning plate 441, a shearing force lowers the viscosity of solder 5, and thereby lowers the average viscosity of solder 5 in paste cell 35.

Because partition 44 is formed by assembling plates 441, it has a large surface area, which effectively prevents solder 5 from hardening due to pressure in paste cell 35. This mechanism prevents defective printing due to the hardening of solder 5.

Thus, as note above, there is a very real and distinct different, not only in structure, but also in purpose and operation between the grille 17 of the MacRaild Patent and the paste-shearing member defined by Applicants' claim 5.

Because there is no teaching nor suggestion of a paste-shearing member as defined by claim 5, Applicants' respectfully submit that claim 5 and dependent claim 6 are patentably distinguished from the MacRaild Patent.

Claim 8 is directed to a method of screen printing and includes a recitation to a paste-shearing member similar to that defined in Applicants' claim 5. For the same reasons as noted above with respect to claim 5, Applicants contend that claim 8 is patentably distinguished from the MacRaild Patent.

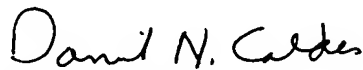
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Based on the foregoing, Applicants respectfully submit that the Section 102(b) rejections directed to claims 5, 6 and 8 be withdrawn.

In view of the foregoing remarks and amendments, Applicants respectfully submit that claims 5, 6 and 8 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,



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